

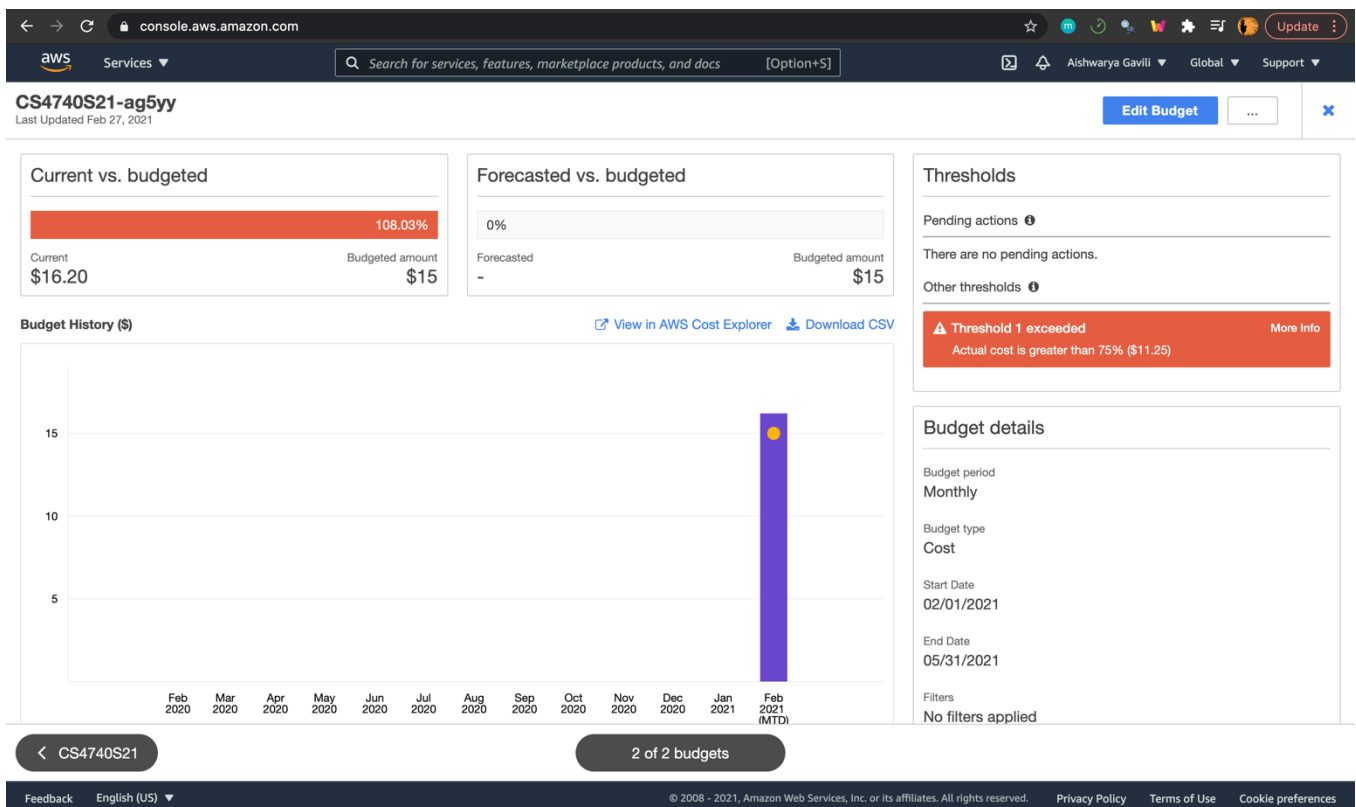
CS4740 Spring 2021 Cloud Computing PA#2

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Instructions: Fill in your answers to the 5 questions and **SUBMIT A PDF to collab (along with your code for Question 4)**

1. [20 points] After completing the “Before you start” section, cut-and-paste a screenshot (7” wide) showing the status of your “CS4740S21-*your_UVA_ID*” budget. It should look something like this (with a different name and a different budget amount):



2. [20 points] After completing Part 1 (“Auto-grader Basic System”), cut-and-paste a screenshot (7” wide) showing the execution of autograde.py on the VM, *where it is grading a correct ‘subtract’ submission*. If you were unable to complete this part, explain how far you were able to get and describe the problem (you were unable to debug).

```
[ubuntu@ip-172-31-78-82:~/cs4740_S21_pa2$ cat execute_submission_and_assess_output.sh
#!/bin/bash
[
CORRECT=0

tmpoutput=`echo -e 5 '\n' 3 | python subtract.py`
f1=`echo $tmpoutput | grep -q -e '2'`
if [ $? = 0 ]; then
    let CORRECT=CORRECT+1
fi

tmpoutput=`echo -e 15 '\n' 20 | python subtract.py`
f1=`echo $tmpoutput | grep -q -e '-5'`
if [ $? = 0 ]; then
    let CORRECT=CORRECT+1
fi

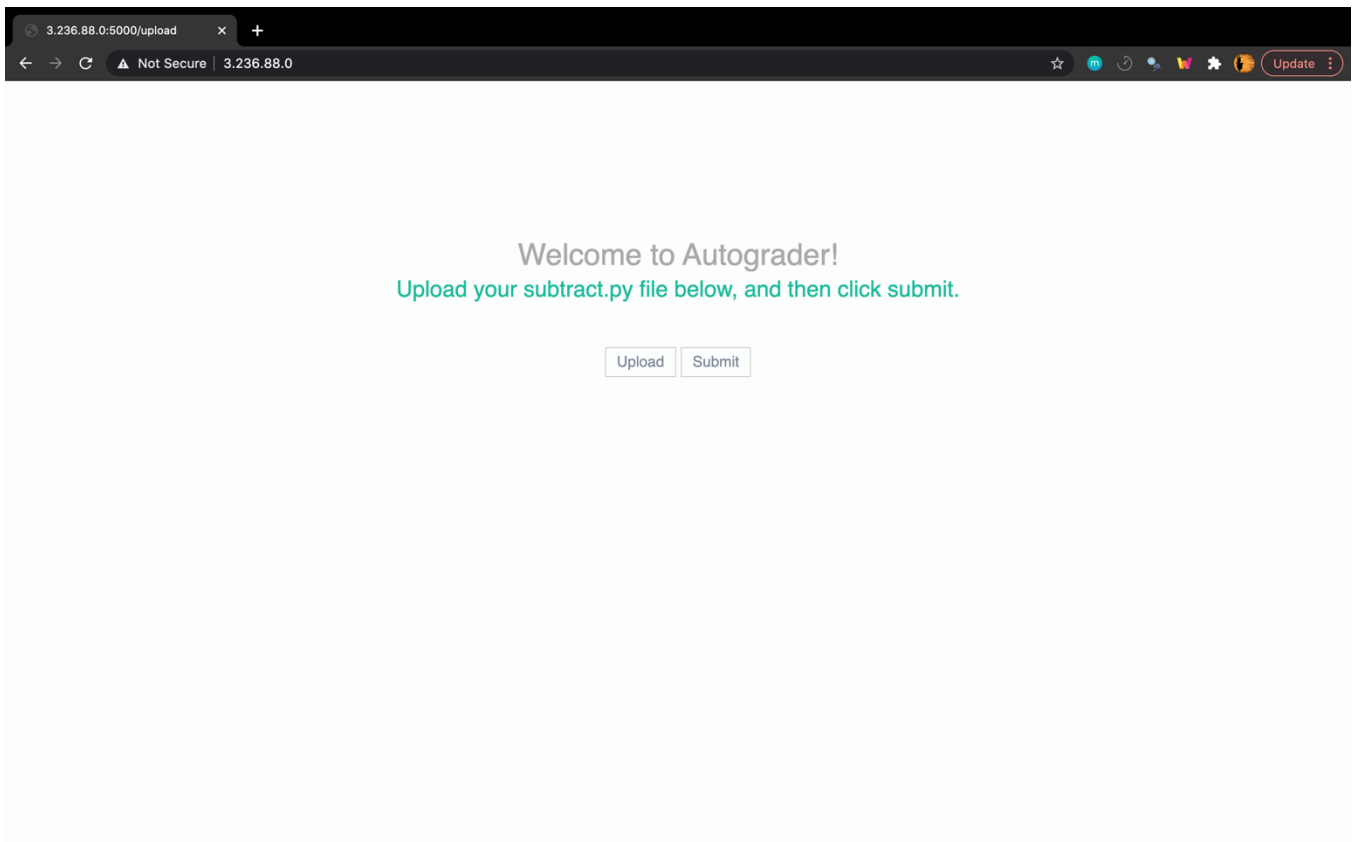
exit $CORRECT
ubuntu@ip-172-31-78-82:~/cs4740_S21_pa2$ python autograde.py
Score: 2 out of 2 correct.
*****Original submission*****
int1 = int(input("Input integer 1: "))
int2 = int(input("Input integer 2: "))
diff = (int1-int2)
print ("the difference is " + str(diff))

ubuntu@ip-172-31-78-82:~/cs4740_S21_pa2$
```

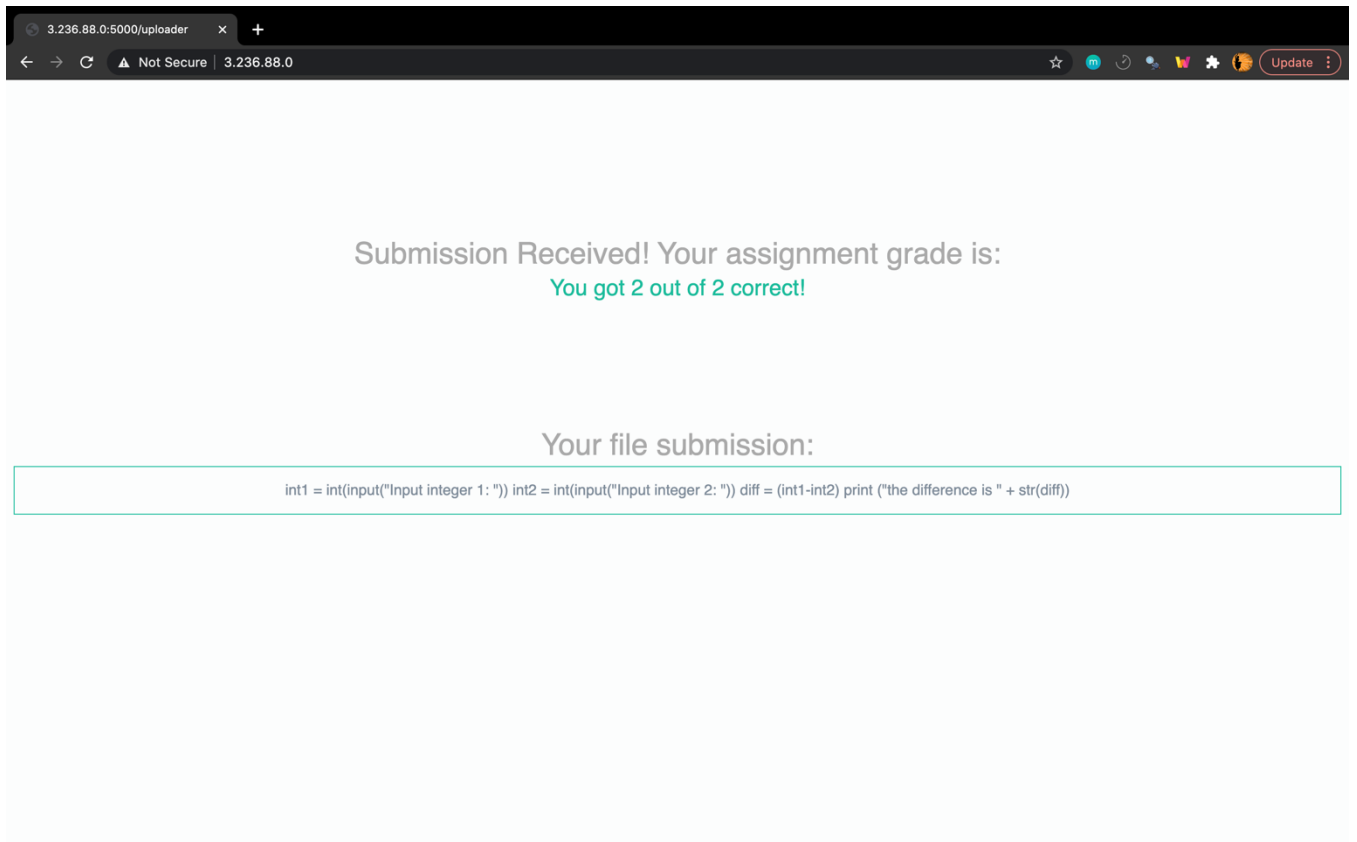
3. [20 points] After completing Part 2 (“Web-based Auto-grader”), cut-and-paste two screenshots (7” wide): [1] the web submission screen, and [2] the results screen (after your autograder has executed). If you were unable to complete this part, explain how far you were able to get and describe the problem (you were unable to debug).

You are required to have a decent User Interface (sufficiently-descriptive Welcome text and instructions on submission page, sufficient results page – if you would be embarrassed to show your boss this, you have probably not done enough!)

[1]



[2]



The screenshot shows a web browser window with a dark theme. The address bar displays "3.236.88.0:5000/uploader" and "Not Secure | 3.236.88.0". The main content area has a light gray background and contains the following text:

Submission Received! Your assignment grade is:
You got 2 out of 2 correct!

Your file submission:

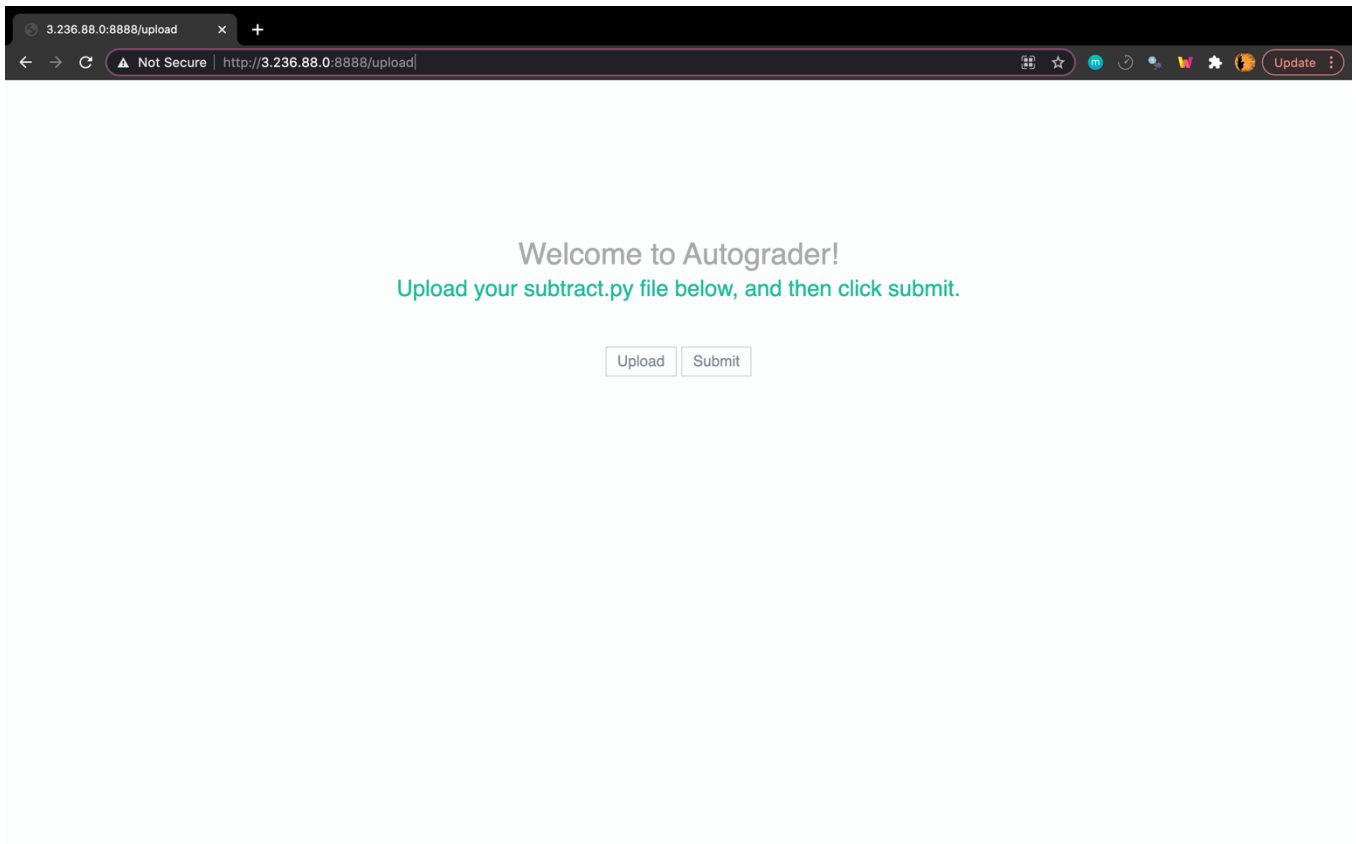
```
int1 = int(input("Input integer 1: ")) int2 = int(input("Input integer 2: ")) diff = (int1-int2) print ("the difference is " + str(diff))
```

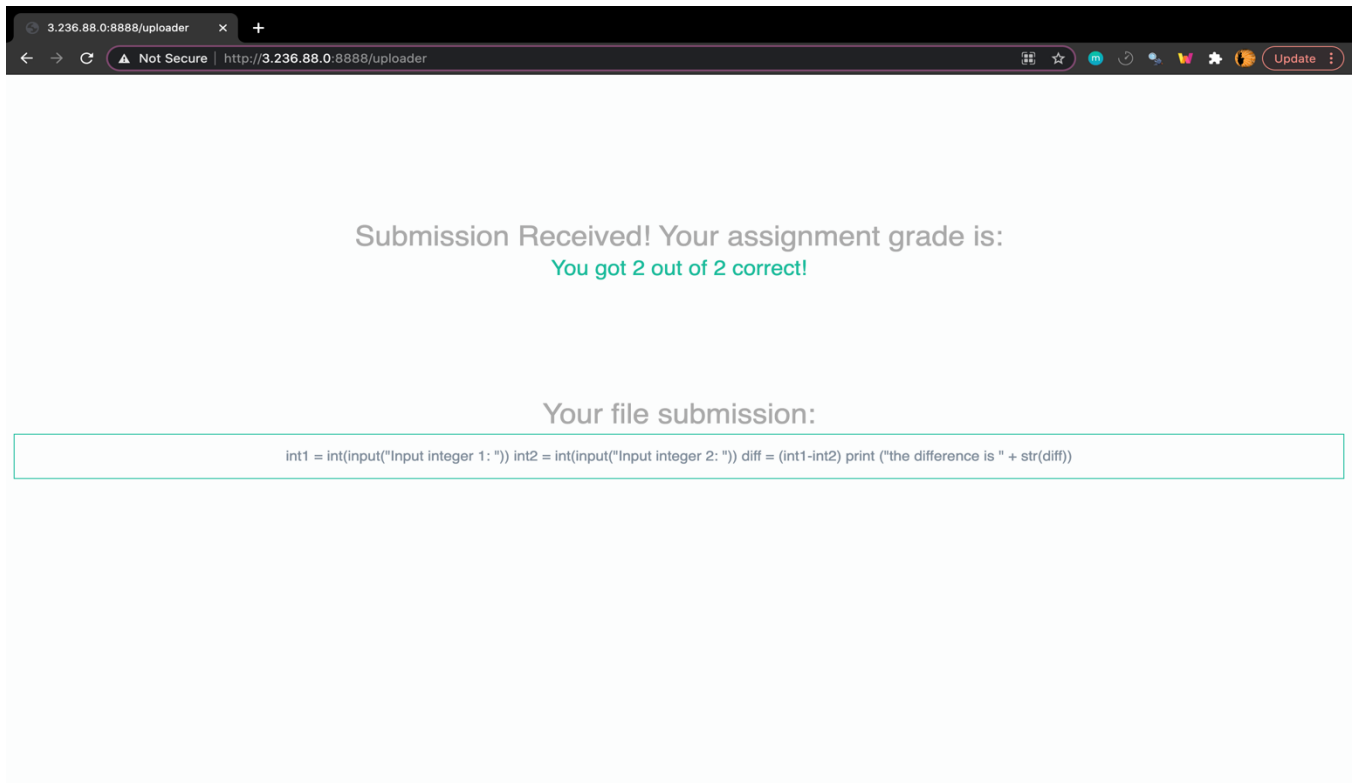
4. [20 points] After completing Part 3 (“Docker-based Auto-Grader”), choose one:

_____✓_____ I **was able** to successfully complete Part 3, “Docker-based Auto-Grader”

_____ I **was unable** to successfully complete Part 3, “Docker-based Auto-Grader”. Here’s what I got stuck on or here’s why I could not complete it (explain, 5 sentences or less):

Cut-and-paste a screenshot (7” wide) of your system being accessed from your laptop via port 8888.





Cut-and-paste a screenshot (7" wide) of your terminal to the VM *after* executing "docker ps" while your service is running.

```
ubuntu@ip-172-31-78-82:~$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                    NAMES
c59763fe9ec5   ubuntu/autograder4   "python ./app.py"       21 seconds ago   Up 20 seconds   0.0.0.0:8888->5000/tcp   charming_jang
ubuntu@ip-172-31-78-82:~$
```

ALSO attach this source code file to your collab submission (ZIP format). (zip up the directory (and any subdirectories) that would allow a person to run your flask code)

5. [20 points] After completing Part 4 (“Docker in AWS via Elastic Container Service”), choose one:

✓ I **was able** to successfully complete Part 4, “Docker in AWS via Elastic Container Service”

_____ I **was unable** to successfully complete Part 4, “Docker in AWS via Elastic Container Service”. Here’s what I got stuck on or here’s why I could not complete it (explain, 5 sentences or less):

If you successfully completed, cut-and-paste [a] the AWS screen (7” wide) showing your service in ECS – e.g., <https://console.aws.amazon.com/ecs/home?region=us-east-1#/clusters/default/services/custom-service/details> [b] the browser page (7” wide) to your Elastic Container Service-based student submission portal, and [c] the browser page (7” wide) to your Elastic Container Service-based results page (after a student submission has been auto-graded). You must show the URLs in the pictures.

The screenshot displays the AWS Management Console interface for the Elastic Container Service (ECS). The breadcrumb navigation shows 'Clusters > default > Service: custom-service'. The main heading is 'Service : custom-service', with 'Update' and 'Delete' buttons. The service details are as follows:

- Cluster: default
- Status: ACTIVE
- Task definition: first-run-task-definition:2
- Service type: REPLICHA
- Launch type: FARGATE
- Service role: AWSServiceRoleForECS
- Created By: arn:aws:iam::896657062303:root
- Desired count: 3
- Pending count: 0
- Running count: 3

Below the details, there are tabs for 'Details', 'Tasks', 'Events', 'Auto Scaling', 'Deployments', 'Metrics', 'Tags', and 'Logs'. The 'Details' tab is selected, showing sections for 'Load Balancing' and 'Network Access'.

Load Balancing

Target Group Name	Container Name	Container Port
EC2Co-Defau-1FJJC8OE1VJDG	custom	5000

Network Access

- Health check grace period: 0
- Allowed VPC: vpc-071ea24bebd7d8fc5
- Allowed subnets: subnet-0c85808f46f09f226, subnet-08688cd545ea4b9b0
- Security groups*: sg-03cbd91ecf1c8cd01
- Auto-assign public IP: ENABLED

The footer of the console shows 'Feedback', 'English (US)', and copyright information: '© 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.' along with links for 'Privacy Policy', 'Terms of Use', and 'Cookie preferences'.

